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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,551	04/14/2004	Yoichi Nakano	S003-5266	8844

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EXAMINER

SUTHAR, RISHI S

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/825,551

Applicant(s)

NAKANO ET AL.

Examiner

Rishi Suthar

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005 (amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10,12,14 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12,14 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Responsive to amendment filed on 5 January 2006.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 5, 12, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al. [1] (U.S. Patent No. 4,334,749).

Regarding claim 1, Saito et al. [1] teaches in Fig. 2 a sector drive unit for a camera comprising: a base plate (11) with an aperture (12), one or more sectors (1, 2, 3) for opening/closing the aperture; an electromagnetic actuator (20) for driving the sectors to open and close the sectors; a driving force transmitting mechanism (4, 5) that drives the one or more sectors via a parallel link mechanism (4, 5) from one of an aperture opening position and an aperture closing opposition to the other of the aperture opening position and the aperture closing position by one-pulse drive of the electromagnetic actuator (col. 4, lines 7-29). The current through the driving coils are constant currents (elements 52-55), so the drive is therefore a single pulse drive.

Regarding claim 2, Saito et al. [1] teaches the electromagnetic actuator is a pulse motor, since it is being driven by a one-pulse drive.

Regarding claim 12, Saito et al. [1] teaches in Fig. 2 a sector drive unit for a camera comprising: a base plate (11) with an aperture (12) and one or more sectors (1, 2, 3) movably mounted adjacent to the aperture for opening/closing the aperture; a pulse driven electromagnetic actuator (20) that produces an output motion in one direction in response to a pulse of one polarity (current in direction of arrow A in Fig. 4 produces counterclockwise rotation) and produces an output motion in an opposite direction in response to one pulse of opposite polarity (current in direction of arrow B in Fig. 4 produces clockwise rotation); a driving force transmitting mechanism (4, 5) responsive to one-pulse drive of the electromagnetic actuator to drive the one or more sectors via a parallel link mechanism (4, 5) from one of an aperture opening position and an aperture closing opposition to the other of the aperture opening position and the aperture closing position by one-pulse drive of the electromagnetic actuator (col. 4, lines 7-29). The current through the driving coils are constant currents (elements 52-55), so the drive is therefore a single pulse drive.

Regarding claims 4, 5, 20, and 21, Saito et al. [1] teaches the pulse motor comprises a rotor (23) having a plurality of magnetic poles, a stator (21, 22 in Fig. 3) having a plurality of magnetic poles, and a drive coil (23a, 23b, 23c, 23d) for driving the rotor, an angle of rotation of the rotor in response to an application of one current pulse to the drive coil being defined by a relationship between positions of the magnetic poles of the rotor and positions of the magnetic poles on the stator. Since stator (21, 22) is made up of permanent magnets, there exists a static stable position in the motor which is also known as the residual torque.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. [1] (U.S. Patent No. 4,334,749) in view of Takahashi (U.S. Patent No. 6,536,962).

Saito et al. [1] teaches the invention as claimed above in claims 1 and 12, but does not expressly disclose a drive gear provided on a drive shaft of the actuator and a sector drive gear driven by the driving gear. Takahashi teaches a sector drive unit for a camera where a drive force transmitting mechanism comprises a drive gear on a drive shaft of the electromagnetic actuator and a sector drive gear driven by the driving gear for driving the one or more sectors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a drive gear on the drive shaft and a corresponding sector drive gear since it is well known to use gears on shafts of motors to promote a better and slip free engagement of the motor and the member to be rotated by the motor.

Art Unit: 2851

5. Claims 7, 8, 14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. [1] (U.S. Patent No. 4,334,749) in view of Saito et al. [2] (U.S. Patent No. 4,290,682).

Regarding claims 7 and 23, Saito et al. [1] teaches the invention as claimed above in claims 1 and 12, but does not expressly disclose a sector urging spring. Saito et al. [2] discloses a sector urging spring provided on the driving force transmitting mechanism for urging the sectors in one of the aperture-opening and aperture-closing directions (col. 1, lines 49-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a sector urging spring as taught by Saito et al. [2] in the invention of Saito et al. [1] since a spring on the drive force transmitting mechanism of electromagnetically operated shutters eliminates the loss in acceleration that prevent a uniform exposure of the film (Saito et al. [2], col. 35-45).

Regarding claims 8 and 14, Saito et al. [1] teaches the invention as claimed above in claims 1 and 12, but does not expressly disclose a case removably mounted to the base plate. Saito et al. [2] discloses a case (21) removably mounted to the base plate (11) and containing therein a drive force transmitting mechanism for sector drive unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a removably mounted case as taught by Saito et al. [2] in the invention of Saito et al. [1] to protect the drive force transmitting mechanism (4, 5) from any external objects.

6. Claims 9, 10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. [1] (U.S. Patent No. 4,334,749) in view of Tanikawa et al (U.S. Patent No. 6,485,200).

Saito et al. [1] teaches the invention as claimed above in claims 1 and 12, except a sector position detecting unit comprising a spring element. Tanikawa et al. discloses in Fig. 1 sector drive unit which has a sector position detecting unit (15) which comprises a conductive spring element having a portion that undergoes movement with the drive force transmitting mechanism to come into and out of contact with a conductive member (Col 4, lines 55-59). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include a sector position detecting unit as taught by Tanikawa et al. in the invention of Saito et al. [1] since it is well known in the art to use sector position detecting units to detect when the shutter is completely open/closed and because the sector position detecting unit taught by Tanikawa et al. is an effective way to actuate a flash at the precise time the shutter is opened.

Response to Arguments

7. Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Telephone Numbers

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rishi Suthar whose telephone number is 571-272-8456. The examiner can normally be reached on M-F 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "W B Perkey".

Rishi Suthar
Examiner
Art Unit 2851

William Perkey
Primary Examiner

RS